AMENDMENTS TO THE CLAIMS

1-16. (Withdrawn)

17. (Original) An impedance circuit for an electrical meter monitoring power usage from a service line, the meter having a current meter and a transformer having a conductor of the service line coupled to primary terminals and a sensing resistor coupled across secondary terminals, the impedance circuit comprising:

a signal generator generating a control signal having a level dependent upon the current sensed by the current meter;

an electrically controlled switch having an ON state and an OFF state, the state of said switch being dependent upon the level of the control signal;

a resistive branch including the electrically controlled switch and a resistive element;

wherein the impedance circuit couples the sensing resistor to the current meter and wherein the equivalent resistance seen by the current meter is dependent upon the state of the switch.

18. (Original) The impedance circuit of claim 17 wherein the switch is a transistor.

19. (Original) The impedance circuit of claim 17 wherein the resistive branch includes a resistor with a temperature coefficient within 0.05% of the temperature coefficient of the sensing resistor.

20. (Original) The impedance circuit of claim 17 wherein the resistive branch is in parallel with the sensing resistor when the switch is in the ON state.

21. (Original) The impedance circuit of claim 17 and further comprising a plurality of resistors in series constituting a voltage divider in parallel with the sensing resistor and the current meter is coupled across terminals of one resistor of the voltage divider.

22. (Original) The impedance circuit of claim 21 wherein the resistive branch is in parallel with the one resistor of the voltage divider.

23. (New) The impedance circuit of claim 17 wherein the sensing resistor, the electrically controlled switch and the resistive element are all formed on a single semiconductor substrate.

24. (New) The impedance circuit of claim 23 wherein the switch comprises a MOSFET transistor.

25. (New) The impedance circuit of claim 18 wherein the transistor is a MOSFET transistor.

26. (New) The impedance circuit of claim 25 wherein the resistive element is connected to a drain of the MOSFET transistor.

27. (New) The impedance circuit of claim 25 wherein a gate resistor is connected to a drain of the MOSFET transistor.

28, (New) The impedance circuit of claim 17 wherein the impedance circuit is a passive impedance circuit.

29. (New) The impedance circuit of claim 17 wherein the level of the control signal causes the electrically controlled switch to have the OFF state when the current sensed by the current meter is below a first threshold.

30. (New) The impedance circuit of claim 29 wherein the level of the control signal causes the electrically controlled switch to have the ON state when the current sensed by the current meter exceeds a second threshold.

31. (New) The impedance circuit of claim 30 wherein the first threshold is different from the second threshold.